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EXAMINER

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.



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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 10/643,660
Filing Date: August 19, 2003
Appellant(s): OTTER, JAMES WILLIAM

MAILED
AUG 02 2007
Group 3700

Karin H. Butchko
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 4/25/07 appealing from the Office action mailed 8/28/06.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

No amendment after final has been filed. A request for reconsideration is filed
11/06/2006.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

4,953,511	BOAH et al.	09-1990
3,307,996	KENEIPP JR RICHARD L	03-1967

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 27-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Boah (US 4,953,511) in view of R. L. Keneipp Jr. (US 3,307,996). Boah discloses (figures 1,5-6 and column 2, lines 37-43) a heat exchanger component comprising a plurality of metal condensing flow passages (62) having a substantially flat metal surface (61) and a film (53) of polymer such as polyolefin. With regarding claims 33 and 41, Boah discloses (column 4, lines 34-43) that the thickness of the coating layer (53) is less than 6.0 mils, which is within the claimed range. Boah substantially discloses all of applicant's claimed invention as discussed above except for the limitation that the film is made of polyester or polybutylene terephthalate or polyethylene terephthalate or polyetherimide or polyethersulfone or polysulfone or polyimide. Keneipp discloses (figure 7 and column 3, lines 39-45) polyethylene, polypropylene or polyester have been known to use as an anticorrosive coating material for a steel conduit, which is subjected to corrosive environment for a purpose of preventing steel material from corrosion due to a corrosive aqueous fluid. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use either polyester or polyethylene or polypropylene as an

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anticorrosive coating material for steel, which is subjected to a corrosive environment, for a purpose of preventing steel material from corrosion due to a corrosive aqueous fluid. Regarding claims 28 and 36, given the fact that the materials are claimed as members of a Markush group (original claim 16), which all alternatives have a common property or activity (MPEP Annex B f(i)(ii) and (iii)), it appears that the hydrophilic effect of the heat exchanger surface is equally achieved with the use of any material in the Markush group. Furthermore, applicant has not disclosed any criticality or any particular purpose for having the claimed materials or polyester. Therefore, the use of polybutylene terephthalate or polyethylene terephthalate or polyetherimide or polyethersulfone or polysulfone or polyimide is deemed to be a design consideration, which fails to patentably distinguish over the prior art of Boah in view of Keneipp. As regarding claims 27-31 and 36-39, the method of forming the device (a film adheres to the surface by a roller assembly and a polymer heater) is not germane to the issue of patentability of the device itself. "Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985). In this instant application, the heat exchanger component in the product by process claim is the same as or obvious from the heat exchanger component (62) of Boah, in which a film of polymer is directly adhering to the metal surface. The steps of using roller, heating and melting pellets to form film may be different from Boah's process, but the final product of the prior art is the same with the product in the product-by-process claim.

(10) Response to Argument

A. Are claims 27-43 properly rejected under 35 U.S.C 103(a) based on Boah (US 4,953,511) in view of R. L. Keneipp Jr. (US 3,307,996)?

I. Claims 27,28 and 31-35.

Appellant's argument that references to Keneipp and Boah are not in the same field or not reasonably pertinent to the applicant's particular problem, has been very carefully considered but is not deemed to be persuasive. Appellant argues that Boah is directed to a heat exchanger while Keneipp is directed to a natural gas or pipe, tube line. Therefore, they are not in the same field of endeavor. However, at a smaller scale, both the heat exchanger of Boah and Keneipp are in analogous art, in a sense that both have to deal with a corrosion problem due to a corrosive fluid such as acid, on a steel conduit which functions to convey a corrosive fluid. In order to solve the corrosion problem, Boah discloses the use of polypropylene film coating on the steel conduit while Keneipp (column 3, lines 36-45) suggests that either polypropylene or polyester film coating can be used to protect the steel conduit from corrosion, especially against corrosive aqueous fluids. Furthermore, Boah's heat exchanger is still structurally a metal conduit that conveys a corrosive fluid, which is similar to Keneipp. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use Keneipp's teaching in Boah's device for a purpose of providing an alternative material film coating to protect the steel conduit from corrosion, especially against corrosive aqueous fluids.

Furthermore, appellant's argument that the combination device of Boah and Keneipp does not disclose that the film coating is applied as a melted polymer and, a melted state and a second film state are structural differences. The argument is not found to be persuasive because as the final product, the heat exchanger apparatus as claimed does not have the polymer in melted state but only in a film state. The step of using melted polymer to form film may be different from Boah's process, but the final product of the prior art, which has a polymer film coating on the heat exchanger is the same with the product in the product-by-process claim.

II. Claims 29-30.

Appellant's argument that neither Boah nor Kenneipp disclose the film is applied to the heat exchanger by using a heater to heat the polymer and using a roller to adhere the film to the surface, has been very carefully considered but is not found to be persuasive. The roller and the heater are not part of the heat exchanger but tools that are used to form film on the heat exchanger during the manufacturing process. The method of forming the device (a film adheres to the surface by a roller assembly and a heater) is not germane to the issue of patentability of the device itself. "Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985). In this instant application, the heat exchanger component in the product by process claim is the same as or obvious from the heat exchanger component (62) of

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Boah, in which a film of polymer is directly adhering to the metal surface. The steps of using roller, heating and melting pellets to form film may be different from Boah's process, but the final product of the prior art is the same with the product in the product-by-process claim, which has a polymer film coating on the heat exchanger's surface.

III. Claims 36 and 39-43.

Appellant's argument that references to Keneipp and Boah are not in the same field or not reasonably pertinent to the applicant's particular problem, has been very carefully considered but is not deemed to be persuasive. Appellant argues that Boah is directed to a heat exchanger while Keneipp is directed to a natural gas or pipe, tube line. Therefore, they are not in the same field of endeavor. However, at a smaller scale, both the heat exchanger of Boah and Keneipp are in analogous art, in a sense that both have to deal with a corrosion problem due to a corrosive fluid such as acid, on a steel conduit which functions to convey a corrosive fluid. In order to solve the corrosion problem, Boah discloses the use of polypropylene film coating on the steel conduit while Keneipp (column 3, lines 36-45) suggests that either polypropylene or polyester film coating can be used to protect the steel conduit from corrosion, especially against corrosive aqueous fluids. Furthermore, Boah's heat exchanger is still structurally a metal conduit that conveys a corrosive fluid, which is similar to Keneipp. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use Keneipp's teaching in Boah's device for a purpose of providing an alternative material film coating to protect the steel conduit from corrosion, especially against corrosive aqueous fluids.

Furthermore, appellant's argument that the combination device of Boah and Keneipp does not disclose that the film coating is applied as a melted polymer and, a melted state and a second film state are structural differences. The argument is not found to be persuasive because as the final product, the heat exchanger apparatus as claimed does not have the polymer in melted state but only in a film state. The step of using melted polymer to form film may be different from Boah's process, but the final product of the prior art, which has a polymer film coating on the heat exchanger is the same with the product in the product-by-process claim.

Finally, appellant's argument that neither Boah Nor Keneipp disclose the film is formed from a material that is one of polybutylene terephthalate or polyethylene terephthalate or polyetherimide or polyethersulfone or polysulfone or polyimide, has been very carefully considered but is not found to be persuasive. Given the fact that the materials are claimed as members of a Markush group (original claim 16), which all alternatives have a common property or activity (MPEP Annex B f(i)(ii) and (iii)), it appears that the hydrophilic effect of the heat exchanger surface is equally achieved with the use of any material in the Markush group. Appellant has cited paragraph 4 to show several drawbacks of polypropylene. However, these drawbacks come from a different method of forming the polymer on the heat exchanger, which is irrelevant to the claimed apparatus. Moreover, Appellant still does not provide that the selected material has any criticality or solves any particular purpose different than of polyester or polypropylene. In fact, appellant discloses in paragraph 19 in the specification that, the thermoplastic polymer group includes polyester, polybutylene terephthalate, polyethylene terephthalate, polyetherimide, polyethersulfone, polysulfone, and polyimide can be used as the film material. Without any criticality or to solve any particular purpose, these listed materials

are deemed to be a design consideration among the thermoplastic polymer, which fails to patentable distinguish over the prior art of Boah and Keneipp.

IV. Claims 37 and 38

Appellant's argument that neither Boah nor Kenneipp disclose the film is applied to the heat exchanger by using a heater to heat the polymer and using a roller to adhere the film to the surface, has been very carefully considered but is not found to be persuasive. The roller and the heater are not part of the heat exchanger but tools that are used to form film on the heat exchanger during the manufacturing process. The method of forming the device (a film adheres to the surface by a roller assembly and a heater) is not germane to the issue of patentability of the device itself. "Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985). In this instant application, the heat exchanger component in the product by process claim is the same as or obvious from the heat exchanger component (62) of Boah, in which a film of polymer is directly adhering to the metal surface. The steps of using roller, heating and melting pellets to form film may be different from Boah's process, but the final product of the prior art is the same with the product in the product-by-process claim, which has a polymer film coating on the heat exchanger's surface.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,





TD

Tho Duong 

July 24, 2007

Conferees:


Cheryl Tyler 

Eric Keasel 